

THE ARGYNNIDES OF NORTH AMERICA.

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In the February numero of *PSYCHE* appeared a reprint from the Transactions of the entomological society of London, upon the North American Argynnidæ by Henry John Elwes. Those who have had the pleasure of studying Mr. Elwes's treatment of the genus *Parnassius* (Proc. zool. soc. Lond. 1886), must have a high and respectful opinion of any other matter upon which he undertakes to write. Mr. Elwes calls this later paper a "Revision" but, it appears to me more like a timely consideration preparatory to a revision. The difficulties in the way of a revision, allow me to say, have not yet been surmounted; the absence of knowledge of the metamorphoses of so many forms prevents a proper understanding of a true relation of one form to the other. The comparative work of the cabinets is frequently of no value through the meagre material and unauthenticated types, observers have to deal with, causing different conclusions even among associates equally able to judge. We must remember, too, that the observers are but ordinary mortals and that nature has thought it a fit and proper thing to place upon the workers in this Western world, a problem that will exhaust the love and energy of the next two generations of lepidopterists, to solve. The insects often differ but slightly from each other,

and the variation is frequently not so much in the insects as in the eyes of the investigators. There are some persons who can scarcely see any variation in forms which to another person appears entirely unlike. In the absence of biologic information how are we to be certain of the extent of variation of a species unless each is bred under careful observation?

This is the method now being carried out principally by Mr. W. H. Edwards, the final results being given in accurately drawn figures of all the conditions and changes appertaining to the natural history of each species. It was getting at the life history of *Colias eurytheme*, that furnished the facts that revealed its relation to its seasonal varieties, which before this, had borne specific names; and it appears to me that a like course is the only safe one, if we would know with what we are dealing. Every person who describes an insect supposes that without doubt he is giving the characters of an undescribed new form, and no author ever dreams that his work is only provisional, yet with additional knowledge upon the subject, that is what it frequently proves to be. There is, however, no prevention of this and when the true information is reached these false species simply drop into synonymical line.

Most of us think that we can pen a readable description of an insect, forgetting that the proportion of persons so capable, is very small. Dr. Behr, H. Edwards, W. H. Edwards and H. Strecker besides Boisduval have all dealt with the Pacific forms. Part of their work represents first impressions only, while some of it partakes of the form of digested considerations. Now comes Mr. Elwes who has redigested the investigations of those who have preceded him the conclusions being a general merging of forms and great reduction of species, and all that can be said in favor of this newer treatment is, that it possibly tends in the right direction. Mr. Elwes remarked that he found species difficult to decide about, but that Mr. Edwards got over the difficulty by naming them all separately. What else could he do in an empirical provisional arrangement but to make his skeleton and clothe it as he could obtain the materials wherewith to make it perfect? No! Edwards has got over no difficulties in that way, but he surmounts them by zeal mixed with a deal of honest hard work. Mr. Elwes is inclined to consider *A. adiante* a variety of either *zerene* or *monticola* I on the contrary feel constrained to look upon it as having little relation with either of those forms. Neither *zerene* nor *monticola* have yet been seen in the habitat of *adiante* so that as far as we know, *adiante* is strictly a local form, species or variety, though if they were to occur in company that would prove no unity of species; I take *zerene*, *liliana* and

rupestris in company (this *rupestris* being *montivaga* Behr), the locality being of a similar nature, in Napa Co. to that which produces *adiante* in San Mateo Co. But Mr. Elwes thinks there is no affinity between *adiante* and *semiramis*. When speaking to Dr. Behr about *semiramis* he remarked that in all probability it was a southern form of *adiante*. This is a case showing the uncertainty of eye sight. I look upon them as true and distinct and, moreover, I see nothing but the silver to connect *semiramis* with *coronis* but on the contrary I see much in it that reminds me of another and altogether different type. Take examples of the Arizonian *nokomis* male and of *aphrodite* male, of *semiramis* male and of *adiante* male and female, and examine them from above and you will perceive they all possess the same tone of yellow brown and that the hind wings of all have the same style of interrupted bands of black; the peculiar yellowish brown that softly fades toward the hinder part of the hind wings, is unlike any tint seen on any other butterfly found in California except *adiante* and *semiramis*. I shall, for the present at least, keep *adiante* free from all alliances, and the other species, though the richly emblazoned underside of the hind wings is a point of some weight, yet in the midst of so much uncertainty it were better to still inscribe on its label as usual, *Argynnis semiramis*, W. H. E. than the other which was suggested in Mr. Elwes's paper.